[This Drawing is a reproduction of the Original on a reduced scale.]

(1 SHEET)

BLOCK'S COMPLETE SPECIFICATION.

Fig. 1

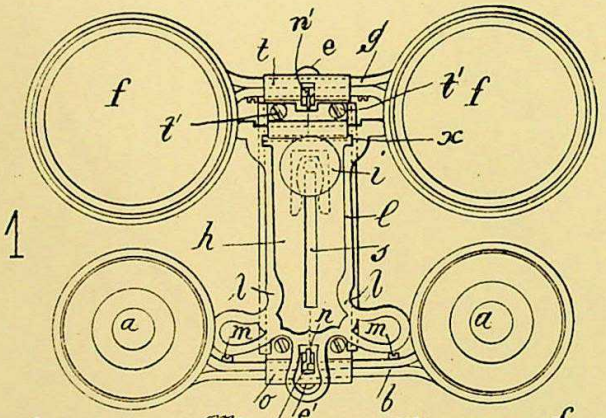


Fig. 2

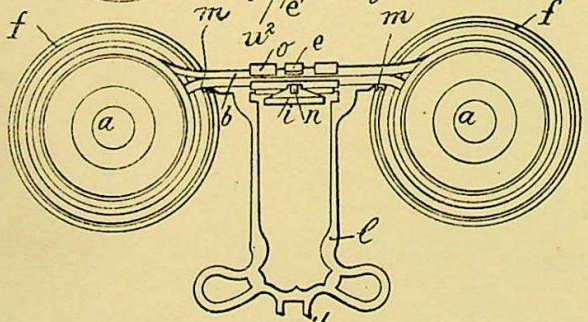


Fig. 7

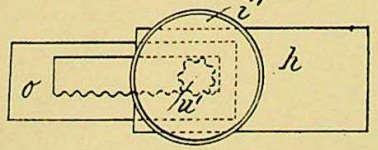


Fig. 3

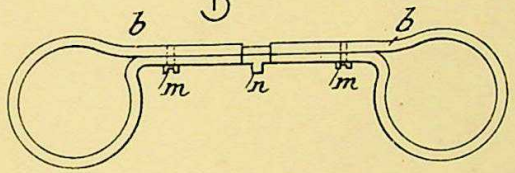


Fig. 4

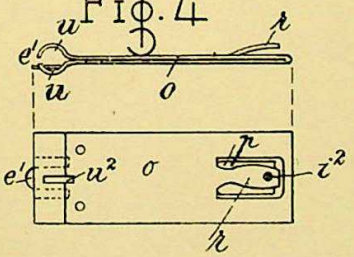


Fig. 6

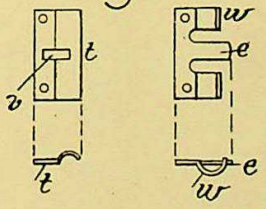
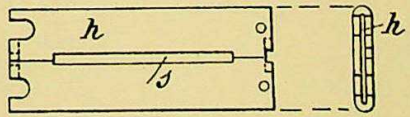


Fig. 5



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N° 20,054 A.D. 1894

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Complete Specification Left, 3rd July, 1895—Accepted, 19th Oct., 1895

PROVISIONAL SPECIFICATION.

An Improved Folding Opera Glass.

I, EDMOND BLOCH of 5 Place de la Republique, Paris, Engineer, do hereby declare the nature of this invention to be as follows:—

This invention consists of a system of mounting which permits the object glasses, eye glasses and accessory parts to lie in the same plane when desired. This is effected by jointing the mounts to an extensible connecting bar in such a way that they can oscillate 90°, so as to be relatively either vertical or horizontal to each other. The connecting bar carries at its free end the object glasses and on the extending end the eye glasses. The extension is effected by a simple slide action or by a rack and spur wheel. Springs are added to prevent a too easy motion of the folding joints and retain the glasses in position until sufficient pressure is applied to overcome their resistance.

Dated this 20th day of October 1894.

S. S. BROMHEAD,
97 Newgate Street, E.C., Agent for Applicant.

COMPLETE SPECIFICATION.

An Improved Folding Opera Glass.

I, EDMOND BLOCH of 5 Place de la Republique, Paris Engineer do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is designed to supply a description of jointed opera glass made to fold the mounting of which allows the object glasses, and the eye glasses, and their connections to be brought into the same plane; the usual tubes or sleeves being added or dispensed with as preferred. This system of opera glass when folded or turned back has the advantage of presenting only a very thin body to the hand and consequently will occupy little room. It may be easily carried in a pocket book or card case.

I will now describe the invention with reference to the accompanying drawings of which:

Fig. 1. shews a plan view of my improved opera glass in the folded or turned back position.

Fig. 2, shews an end view of the same in position ready for use, the eye glasses being turned up in front of the object glasses, and the handle turned down.

Fig. 3. shews a detached view of the mounting *b* of the eye glasses, the mounting *g* of the object glasses being similar, but usually larger.

Fig. 4. shows a side and plan view of the sliding extension plate or runner *o* permitting of the necessary focussing adjustment of the glasses as described below.

Fig. 5. shews a plan and end view of a sleeve *h* in which the sliding extension plate *o* travels, to permit of the focussing adjustment.

Fig. 6, shows enlarged plans and side views of the two halves *t*, *u*, of a bearing

used to support the mounting *g* of the object glasses. The two halves of this bearing are fastened in place one on each side on the end of the sleeve *h* by means of screws t^1, t^1, Fig. 1.

Fig. 7 shews an alternative arrangement for bringing the glasses into focus by means of a rack and pinion gear.

a, *a*, are the eye glasses.

b, is the mounting for the eye glasses *a*. *a* Figs. 1. 2 and 3.

This mounting is made to revolve in a quarter of a circle to fold up or down as required; a spur or lug *n* Fig. 3, cut in the middle of its length engages with a slot u^2 in the extension plate *o* Fig. 4, and the spring e^1 controls the movement by holding the mounting firm in either position, as it presses against one of two flat faces formed at right angles to each other on the bar of the mount.

f. *f*, are the object glasses.

g, is the mounting for the object glasses *f*, *f*, and is similar to the mounting *b* of the eye glasses.

The object glasses *f f* are mounted on one end of the sleeve *h*, and the eye glasses *a a* are mounted on the opposite end of the extension plate *o*.

l. (Figs. 1 and 2) is a handle hinged to the underside of the sleeve *h* at *x* for holding the instrument conveniently when in use.

I will now proceed to describe the various parts and fittings in detail.

Referring to the sleeve *h*, the mounting *g* is attached to the end of same by means of the spring bearing, forming a hinge joint shewn in the halves *t*. *w*, in Fig. 6. The halves *t*, *w*, are fastened to sleeve *h* by means of screws t^1, t^1, one on each side thus forming an open ring or spring hinge, the spring *e* of which determines the position of the mounting *g*.

The upper half *w* is fitted in the centre with a tongue shaped spring *e*, and the lower half *t*, is provided with a slot *v* which engages with a lug n^1 formed on the centre bar of the mounting *g*, (Figs. 1 and 2.) similar to the lug *n* shown on the mount *b* in Fig. 3. The whole ring or bearing thus forms a compact spring hinge.

The mounting *b* is fitted on the end of the extension plate *o* in a slightly different manner to mounting *g*.

The extension plate *o* consists of a single sheet of metal doubled transversely over in the middle upon itself, the two ends of the piece are then each curved or arch shaped so that they form an open ring or spring bearing *u* when finished as shewn in Fig. 4.

The upper half is provided with a slot u^2, which engages with a lug *n* on the centre bar of the mounting *b* (Fig. 3), and the lower half with a spring tongue e^1, forming a spring bearing or open ring similar to that shewn in Fig. 6.

It will be understood that the turning movement of either of the respective mounts *b*, *g*, will be limited in the length of its travel by the length of the slots u^2, *v*. both of which engage with their respective spurs *n*, n^1.

Referring again to the extension plate *o*, this is hollowed out near its opposite end at *p*, and is further provided with a friction spring tongue *r*, into which is screwed the shank i^2 (Fig. 4) of a pressure knob or button *i* (Figs. 1 and 2).

This shank i^2 projects upwards through the slot *s* in the sleeve *h* (Figs. 1 and 5), the object of the spring being that the extension plate *o*, shall not move too easily in sleeve *h*. The length of the slot *s* cut in the upper face of the sleeve *h* (Fig. 5) will obviously limit the travel of the extension plate *o*.

Referring now to Fig. 7 an alternative arrangement is here shown consisting of a button i^1, to the spindle of which is attached a pinion u^1, carried by the sleeve *h* engaging with a rack formed in the extension plate *o*, as shown in dotted lines.

The two mounts *b*. *g*, are each formed as shewn, preferably of a single strip of metal conveniently bent into shape and fastened by means of screws *m*, *m*, Figs. 1. 2 and 3.

The space between the eye glasses and the object glasses may be enclosed by some suitable material such as cloth or leather fixed on mounts *b g* and suitably mounted in such a manner as to be able to be expanded or contracted.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is :

1. A system of forming jointed opera glasses so compressible as to be capable of being placed in a pocket, pocket book, card case and the like and distinguished by the following features :

a. Two object glasses and two eye glasses so jointed as to be able to fold about 90° from the vertical or horizontal position.

b. A sliding plate arrangement, one part carrying the object glasses and one part the eye glasses, which permits the necessary action either by slide movement, or by a rack and pinion.

c. A handle attached to the instrument capable of being folded down to describe an arc similar to that of the eye glasses as herein described and set forth.

Dated this 3rd day of July 1895.

S. S. BROMHEAD,
97 Newgate Street, London, Patent Agent.

London : Printed for Her Majesty's Stationery Office, by Darling & Son, Ltd.—1895